



2873 22nd St SE
Salem, OR 97302

Tel: 503.540.8114
Fax: 503.362.5597
www.oregonbl.com
ISO/IEC 17025:2017 Accredited Laboratory
NLVAP Code: 200826-0

March 24, 2021

RMA Armament
22800 Dewey Rd
Centerville, IA 52544
ATTN: Blake Waldrop

Dear Mr. Waldrop:

In accordance with your instructions, Oregon Ballistic Laboratories conducted Ballistic Resistance (V_0) testing on two samples.

The samples were tested in accordance with NIJ-STD-0101.06 Level IV (abbreviated) (modified) in an indoor range with the muzzle of the test barrel mounted 25 feet away from the target and positioned to produce 0-degree obliquity impacts. Four infrared light screens, in conjunction with time-based frequency counters, were positioned such that projectile velocity was measured 8.25 feet from the target. Penetrations were determined by examination of a 5.5-inch clay block mounted behind the test sample. Results for all testing performed for this purpose are summarized in the following table.

Test Sample			Ballistic Threat				Results		
OBL No.:	S/N.:	Weight (lbs.)	Projectile	Shots	Velocity (fps)		Penetrations	BFD (mm)	Pass/Fail
					Min.	Max.			
27835	1155-MC-S1	8.22	.30cal. M2 AP	2	2901	2906	0	20.21	<u>PASS</u>
27836	1155-MC-S2	8.22	M855A1	1	3118		0	11.36	<u>PASS</u>
			M193	1	3257		0	4.85	<u>PASS</u>
			BZ API	1	2382		0	6.81	<u>PASS</u>

*Data shown in the table represents fair impacts only.

This report pertains only to the samples tested and may not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Samples will be maintained at Oregon Ballistic Laboratories for 30 days and then discarded unless other instructions are received. If you have any further questions or concerns, please contact us.

Darius Nuttbrock
Ballistic Test Director
Oregon Ballistic Laboratories
503.689.5134
Email: dnuttbrock@oregonbl.com



BALLISTIC RESISTANCE TEST - V₀

Customer: RMA Defense
 OBL ID#: 27835
 Date Rcv'd: 3/9/2021
 Test Date: 3/24/2021
 Purchase Order:

TEST SAMPLE		Size (in.):	10 x 12
Model No.:	1155-MC	Weight (lb.):	8.22
Serial No.:	1155-MC-S1	Thickness:	
Lot No.:	Sample/Test	Avg. Thk. (in.):	
Plies:	N/A		
Description:	Level IV Hard Armor Plate		

RANGE SET-UP		Range #:	2	Pre Test:					
Range to Target:	25 ft.	Temperature:	67.9 °F	Clay Drops (mm):	18.80	20.20	20.34	20.48	20.96
Screen Dist. Vel. 1 (ft.):	5	Bar. Pressure:	30.22 in. Hg	Drop Avg (mm):	20.16				
Screen Dist. Vel. 2 (ft.):	4	Rel. Humidity:	37.6 %	Clay Temp °F:	95.5				
Screen 4 to target (ft):	N/A	Sample Temp.	Amb. °F	Clay Box #:	11				
Primary Vel. Location:	8.25 ft. from target	Recorder:	Brian Wyler	Post Test:					
Striking Velocity:	No	Gunner:	Will Kaufman	Clay Drops (mm):	18.18	16.96	16.02	19.74	17.19
Target to Witness:	N/A			Drop Avg (mm):	17.62				
Witness Panel:	N/A			Clay Temp °F:	87.8				
Backing Material:	5.5" clay block								
Obliquity:	0 Degrees								
Barrel:	.308/1:12/30"								

AMMUNITION		Powder:	VihtaVuori N133
Projectile:	.30 cal. 160gr. M2 AP lot# LC 13575		

STANDARDS / PROCEDURES		Required Velocity:	2880 fps ± 30 fps
NIJ-STD-0101.06 Level IV (abbrev) (mod)			

SHOT NO.	PROJECTILE WT. (gr.)	POWDER WT. (gr.)	TIME 1 μs (10 ⁻⁶)	TIME 2 μs (10 ⁻⁶)	VELOCITY 1 ft/s	VELOCITY 2 ft/s	AVERAGE VELOCITY	PENET. P/C	OBLIQUITY	CALIPER BFD	NOTES
1	162.4	42.6	1726	1377	2897	2905	2901	P	0°	20.21	
2	162.7	42.6	1722	1376	2904	2907	2906	P	0°		

REMARKS:
 P=Partial Penetration
 C=Complete Penetration
 UH=Unfair Hit

TEST RESULTS:
 Test sample satisfied the ballistic requirements given.

FOOTNOTES:
 Sample was subjected to Armor Drop Test.
 Sample was subjected to Armor Submersion.

This report pertains only to the samples tested and must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Customer: RMA Defense
 OBL ID#: 27836
 Date Rcv'd: 3/9/2021
 Test Date: 3/24/2021
 Purchase Order:

TEST SAMPLE

Model No.: 1155-MC
 Serial No.: 1155-MC-S2
 Lot No.: Sample/Test
 Plies: N/A
 Description: Level IV Hard Armor Plate

Size (in.): 10 x 12
 Weight (lb.): 8.22
 Thickness:
 Avg. Thk. (in):

RANGE SET-UP

Range to Target: 25 ft.
 Screen Dist. Vel. 1 (ft.): 5
 Screen Dist. Vel. 2 (ft.): 4
 Screen 4 to target (ft): N/A
 Primary Vel. Location: 8.25 ft. from target
 Striking Velocity: No
 Target to Witness: N/A
 Witness Panel: N/A
 Backing Material: 5.5" clay block
 Obliquity: 0 Degrees
 Barrel: .223 Rem/1:12/30"

Range #: 2
 Temperature: 67.9 °F
 Bar. Pressure: 30.22 in. Hg
 Rel. Humidity: 37.6 %
 Sample Temp. Amb. °F
 Recorder: Brian Wyler
 Gunner: Will Kaufman

Pre Test:
 Clay Drops (mm): 18.80 20.20 20.34 20.48 20.96
 Drop Avg (mm): 20.16
 Clay Temp °F: 95.5
 Clay Box #: 11
 Post Test:
 Clay Drops (mm): 18.18 16.96 16.02 19.74 17.19
 Drop Avg (mm): 17.62
 Clay Temp °F: 87.8

AMMUNITION

Projectile: M855A1

Powder: BL-C (2)

STANDARDS / PROCEDURES

NIJ-STD-0101.06 Level IV (abbrev) (mod) - Special Threat

Required Velocity: 3115 fps ± 30 fps

SHOT NO.	PROJECTILE WT. (gr.)	POWDER WT. (gr.)	TIME 1 μ s (10 ⁻⁶)	TIME 2 μ s (10 ⁻⁶)	VELOCITY 1 ft/s	VELOCITY 2 ft/s	AVERAGE VELOCITY	PENET. P/C	OBLIQUITY	CALIPER BFD	NOTES
1	61.9	26.5	1604	1283	3117	3118	3118	P	0°	11.36	
2	55.2	20.2	1539	1225	3249	3265	3257	P	0°	4.85	Switched to M193 / IMR 4227 / 3250 fps
3	118.8	22.5	2099	1679	2382	2382	2382	P	0°	6.81	Switched to 7.62x39 BZ API / IMR 4227 / 2380 fps

REMARKS:

P=Partial Penetration
 C=Complete Penetration
 UH=Unfair Hit

TEST RESULTS:

Test sample satisfied the ballistic requirements given.

FOOTNOTES:

Sample was subjected to Armor Drop Test.
 Sample was subjected to Armor Submersion.